UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW YORK

SOTER TECHNOLOGIES, LLC, Plaintiff, v. IP VIDEO CORPORATION, A+ TECHNOLOGY & SECURITY SOLUTIONS, INC., HALO SMART SOLUTIONS, INC. & ADVANCE CONVERGENCE GROUP, INC. Defendants.	Civ. No. 2:20-cv-02989(GRB)(AKT)
IP VIDEO CORPORATION AND HALO SMART SOLUTIONS, INC., & ADVANCE CONVERGENCE GROUP, INC. Counterclaim/Third-Party Plaintiffs, v. SOTER TECHNOLOGIES, LLC Counterclaim Defendant and INTELLIGENT PRODUCT SOLUTIONS, INC. and DEREK PETERSON, Third Party Defendants.	

JOINT DISPUTED CLAIM TERMS CHART

Pursuant to the Court's Local Patent Rules and the Court's Order of December 9, 2020, the parties hereby submit this Joint Disputed Claim Terms Chart directed to the claims of U.S. Patent

No. 10,699,549. The Parties' proposed constructions for each claim term in dispute are identified in the chart attached as Exhibit A.

Identification of claim terms whose construction will be most significant to the resolution of this case

The Parties submit that the construction of the following claim terms will be most significant to the resolution of the case:

Plaintiff's Identification of Terms

- "air quality" (claims 1, 13, 25)
- "air quality sensor" (claims 1, 13, 25)
- "abnormality matching signature" (claims 1, 13, 25)
- "abnormality matching signature of vaping" (claims 1, 13, 25)
- "a signature" (claim 25)
- "the abnormality matching signature includes …" (claims 2, 14) or "the signature includes …" (claim 26)
- "sound detector" (claim 6)
- "detected sounds" (claim 6)

Defendants' Identification of Terms

- "air quality sensor" (claims 1, 13, 25)
- "abnormality matching signature of vaping" (claims 1, 13, 25)
- "a signature" (claim 25)
- "identify vaping" or "vaping is identified" (claims 1, 13, 25)
- "the abnormality matching signature includes a temperature range, a hydrogen range, and a humidity range" (claims 2, 14) or "the signature includes a temperature range, a hydrogen range, and a humidity range" (claim 26)

Terms for which the Parties have agreed on a construction

- "vaping" (claims 1, 13, 25): "the action or practice of inhaling and exhaling the vapor produced by an electronic cigarette or similar device"

Claim Construction Hearing

Plaintiff's Position

Plaintiff proposes that the Court allocate 1 hour per side for opening arguments and presentation of evidence and 30 minutes per side for rebuttal.

Plaintiff is submitting four declarations in support of claim construction:

- Dr. Jacob Sharony (Expert);
- William Schweigert (Inventor);
- Asheik Hussain (Inventor); and
- Mohammed Elbadry (Inventor).

These witnesses will be available to testify and answer any questions the Court may have. Depending on the briefing of the parties, Soter may agree to limit the number of live testifying witnesses.

Plaintiff notes that Defendants, as a part of this submittal, have identified Dr. Brown as a witness that Defendants will rely upon to support their proposed claim constructions. A declaration from Dr. Brown is identified by Defendants as supporting extrinsic evidence in the attached chart. Plaintiff further notes that Defendants had not previously disclosed to Plaintiff that Defendants would rely upon Dr. Brown's testimony as supporting extrinsic evidence for their constructions. Defendants have not provided Plaintiff with a declaration from Dr. Brown.

Defendants' Position

Defendants agree that 1 hour per side for opening arguments and presentation of evidence and 30 minutes per side for rebuttal should be sufficient.

Defendants are submitting the declaration of Dr. D. Richard Brown to rebut the proffered testimony of Dr. Jacob Sharony. Dr. Brown will be available to testify and answer any questions the Court may have at the hearing. Dr. Brown was identified as a potential rebuttal witness to any expert testimony proffered by Plaintiff in Defendants' Proposed Claim Term Constructions timely served on Plaintiff last Friday, February 5, 2021. Defendants are serving Plaintiff with the Declaration of Dr. D. Richard Brown today, February 12, 2021, rebutting Dr. Sharony's declaration including any intrinsic and extrinsic evidence cited therein.

Defendants anticipate taking the deposition of each of the witnesses identified above, in addition to the fourth inventor of the '549 Patent, David Peterson. Defendants reserve the right to rely on such deposition testimony in claim construction briefing and at the hearing.

Dated: February 12, 2021

By: s/ Wendy R. Stein Wendy R. Stein Jean E. Dassie GIBBONS P.C. One Pennsylvania Plaza, 37th Floor New York, New York 10119 wstein@gibbonslaw.com jdassie@gibbonslaw.com Christopher H. Strate Christine A. Gaddis GIBBONS P.C. One Gateway Center Newark, NJ 07102 cstrate@gibbonslaw.com cgaddis@gibbonslaw.com *Attorneys for Plaintiff and Counterclaim Defendant Soter Technologies LLC*	By: s/ Richard T. Matthews Richard T. Matthews Andrew R. Shores WILLIAMS MULLEN, P.C. P.O. Drawer 1000 Raleigh, NC 27602-1000 Telephone: (919) 981-4000 Fax: (919) 981-4300 rmatthews@williamsmullen.com ashores@williamsmullen.com Janet M. Smith WILLIAMS MULLEN, P.C. 200 South 10th Street, Suite 1600 Richmond, VA 23219 Telephone: (804) 420-6212 Fax: (804) 420-6507 jmsmith@williamsmullen.com Robert M. Isackson Lauren Brette Sabol Martin Bernard Schwimmer Leason Ellis LLP

	One Barker Avenue, 5th floor White Plains, NY 10601 Tel.: (914) 288-0022 Fax: (914) 288-0023 isackson@leasonellis.com sabol@leasonellis.com schwimmer@leasonellis.com *Attorneys for Defendants IP Video Corporation, A+ Technology & Security Solutions, Inc., Halo Smart Solutions, Inc. & Advance Convergence Group, Inc.*

EXHIBIT A

JOINT DISPUTED CLAIM TERMS CHART
PURSUANT TO LOCAL PATENT RULE 11

U.S. Patent No. 10,699,549		
Term	**Plaintiff's Proposed Construction, Cross References and Identification of Supporting Evidence**	**Defendants' Proposed Construction and Cross References and Identification of Supporting Evidence**
"air quality" (claims 1, 13, 25)	Proposed Construction: one or more parameters relating to the content or condition of the air that is present at a site. Infringement Contentions[1]: pp. 4-10, 24-29, 39-42 Supporting Evidence: '549 Patent: Abstract, col 1:18-22, col. 1:25-34, col. 9:15-21, col. 10:57-11:28; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; US Patent No. 6,711,470; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2015/0323427; U.S. Patent Application No. 2016/0063841; Declaration of Jacob Sharony.	Proposed Construction: "measures of certain properties or contents of air" Intrinsic Evidence: Col.9, lines 15-22 ("The air quality sensor 220 may detect air quality including moisture and hydrogen content in the air and temperature of the air. In other words, the air quality sensor 220 may include a combination of sensors sensing air quality. In an aspect, the air quality sensor 220 may include other sensors sensing air content of the environment. Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure.") Extrinsic evidence: Lunatech ¶ 0054 ("the apparatus may comprise a portable or stationary air filtration system which identifies air quality

[1] As used herein, "Infringement Contentions" refers to Plaintiff's Disclosure of Asserted Claims and Initial Infringement Contentions, dated October 30, 2020.

		utilizing a UV spectral analysis and mass spectrometry as well as olfactory identification systems and sensors detecting CO2, and other chemical and compounds"); Declaration of D. Richard Brown Invalidity Contentions:[2] Invalidity Contentions at Ex. A at claims 1, 13, and 25 (pages 12-16; 22-28; 33-37)
"air quality sensor" (claims 1, 13, 25)	Proposed Construction: a sensor capable of sensing or detecting one or more parameters of air quality that is present at a site. Infringement Contentions: 4-7, 24-27, 39-40 Supporting Evidence: '549 Patent: Abstract, col. 1:58-2:67, col. 9:15-21; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; US Patent No. 6,711,470; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2015/0323427; U.S. Patent Application No. 2016/0063841; Declaration of Jacob Sharony.	Proposed Construction: "a sensor for measuring the certain properties and/or contents of air" Intrinsic Evidence: *E.g.*, Claim 1 ("the air quality sensor including a combination of sensors"); Col. 9, lines 15-22 ("the air quality sensor 220 may include a combination of sensors sensing air quality") Extrinsic evidence: Lunatech ¶¶ [0183-0188; 0083; 0054]; IPVideo Publication ¶ [0023; 0025] Declaration of D. Richard Brown Invalidity Contentions: Invalidity Contentions at Ex. A at claims 1, 13, and 25 (pages 12-16; 22-28; 33-37)

[2] As used herein, "Invalidity Contentions" refers to Defendants' Invalidity Contentions, dated December 14, 2020.

"abnormality matching signature" (claims 1, 13, 25)	Proposed Construction: one or more parameters, such as a window size, threshold values or ranges, from a sensor indicating the presence of conduct to be detected, such as vaping, smoking and bullying. Infringement Contentions: 7-10, 29-31, 40, 41 Supporting Evidence: '549 Patent: Abstract, col. 1:61-2:2, col. 2:30-42, col. 4:45-54, col. 11:43-49; '549 Patent Pros. Hist.: Original Claims 1, 25 and 26, Office Action 1-16-20; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; November 15, 2018 International Search Report for International Application No. PCT/US18/00223; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2016/0063841; U.S. Patent Application No. 2016/0212828; SOTER 01465-01471; SOTER 01309-01352; SOTER 01359-01376; Declaration of Jacob Sharony.	Defendants contend that the term "abnormality matching signature" standing alone is not in the claims of the '549 Patent and therefore construction of this term is improper. The term "abnormality matching signature" is only used with the additional modifier "of vaping," making construction of the term "abnormality matching signature ***of vaping***" the only proper term for construction by the Court. Defendants incorporate by reference the proposed construction for "abnormality matching signature of vaping" and supporting evidence identified immediately below.
"abnormality matching signature of vaping" (claims 1, 13, 25)	Proposed Construction: one or more parameters, such as threshold values or ranges, from an air quality sensor indicating the presence of vaping. Infringement Contentions: 7-8, 29, 40-41	Proposed Construction: "detectable values of the properties and/or contents of air that include temperature, hydrogen, and humidity values that taken together indicate the presence of vaping"

	Supporting Evidence: '549 Patent: col. 1:58-2:67, col. 4:45-54, col. 5:66-6:2, col. 6:8-12, col. 6:25-28, col. 7:1-3, col. 8:21-25, col. 11:43-49, Dependent Claims 2, 14 and 26; '549 Patent Pros. Hist.: Original Claims 1, 25 and 26, Office Action 1-16-20; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; November 15, 2018 International Search Report for International Application No. PCT/US18/00223; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2016/0063841; U.S. Patent Application No. 2016/0212828; SOTER 01465-01471; SOTER 01309-01352; SOTER 01359-01376; Declaration of Jacob Sharony; Declaration of William Schweigert; Declaration of Asheik Hussain; Declaration of Mohammed Elbadry.	Intrinsic Evidence:[3] Col. 2, lines 8-10 and lines 48-51 ("vaping or (*sic*) another smoking activity is identified when the detected air quality includes a signature. ***The signature includes a temperature range, a hydrogen range, and a humidity range***.") Fig. 6 & Col. 11, lines 29-49 ("The method starts from sensing temperature and humidity in step 610"; "In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660." Col. 5, lines 3-13 ("The location-independent base data may be air quality data related to identifying vaping. ***Since vaping has a signature in temperature, humidity, and hydrogen ranges, vaping may be identified based on the signature.***"). Col. 6, lines 35-44 ("The index value is calculated based on the temperature, moisture, and the detection results of the

[3] Defendants reserve the right to rely on similar disclosures in U.S. Patent Application No. 16/915,074, a pending continuation application of the Asserted '549 Patent, in support of each of its proposed constructions herein.

		modified hydrogen sensor. For example, the temperature falls in a range between 60 and 80 degree Fahrenheit, the moisture is increased by at least 10 percent, and the hydrogen increases from the base level (e.g., environment level) by approximately 10 percent, the detection sensor 110 may determine that vaping has occurred. This determination is provided as an example and is not provided to limit the scope of this application."). Col. 9, lines 15-23 ("The air quality sensor 220 may detect air quality including moisture and hydrogen content in the air and temperature of the air. In other words, the air quality sensor 220 may include a combination of sensors sensing air quality. In an aspect, the air quality sensor 220 may include other sensors sensing air content of the environment. ***Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure***." PCT/US2018/000223 at ¶ [0064] ("Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure."); ¶ [0082] ("In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning

		that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660."). Extrinsic evidence: U.S. Patent No. 10,777,063 to Soter, col. 8, lines 48-50 ("Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure."); col. 10, lines 13-16 ("In step 450, it is determined whether the sensed temperature, humidity, and gas match the signature, meaning that the sensed results are within the corresponding ranges for identifying vaping.") Lunatech ¶¶ [0090; 0148; 0054] Steinthal ¶¶ [0011; 0029] Hartenstein Col 3. Lines 42-58 ("The combination of sensors and the database of signatures enables the present invention to monitor a number of contaminants beyond the contaminants that the sensors can monitor individually.) Hartenstein Col 9. Lines 36-49 ("For example, if the sensors consisted of a

		carbon dioxide sensor, a volatile organic sensor and a sulfur dioxide sensor, then the response of these three sensors to various contaminants can be mapped to a three dimensional space. This is analogous to an array signature for the contaminant. Using a three dimensional space, contaminants that have an array signature spatially near the array signature of other known contaminants can be presumed hazardous and the identity of the contaminant can be inferred. A system having n sensors places the array signatures of various contaminants in an n dimensional space. The additional dimensions allows for more accurate identification of indoor air contaminants. By learning the array signature of additional contaminants, IAQMS 80 can learn to identify a wide variety of contaminants."); Declaration of D. Richard Brown <u>Invalidity Contentions</u>: Invalidity Contentions at Ex. A at claims 1, 13, and 25 (pages 12-16; 22-28; 33-37)
"a signature" (claim 25)	<u>Proposed Construction</u>: a set of one or more parameters that provides an abnormality matching signature of vaping. <u>Infringement Contentions</u>: 41-42	<u>Proposed Construction:</u> "detectable values of the properties and/or contents of air that include temperature, hydrogen, and humidity values that taken together indicate the presence of vaping"

	Supporting Evidence: '549 Patent: col. 1:58-2:67, col. 4:45-54, col. 5:66-6:2, col. 6:8-12, col. 6:25-28, col. 7:1-3, col. 8:21-25, col. 11:43-49, Dependent Claim 26; '549 Patent Pros. Hist.: Original Claims 25 and 26, Office Action 1-16-20; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; November 15, 2018 International Search Report for International Application No. PCT/US18/00223; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2016/0063841; U.S. Patent Application No. 2016/0212828; SOTER 01465-01471; SOTER 01309-01352; SOTER 01359-01376; Declaration of Jacob Sharony; Declaration of William Schweigert; Declaration of Asheik Hussain; Declaration of Mohammed Elbadry.	Proposed Construction: "detectable values of the properties and/or contents of air that include temperature, hydrogen, and humidity values that taken together indicate the presence of vaping" Intrinsic Evidence:[4] Col. 2, lines 8-10 and lines 48-51 ("vaping or (*sic*) another smoking activity is identified when the detected air quality includes a signature. ***The signature includes a temperature range, a hydrogen range, and a humidity range***.") Fig. 6 & Col. 11, lines 29-49 ("The method starts from sensing temperature and humidity in step 610"; "In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660." Col. 5, lines 3-13 ("The location-independent base data may be air quality data related to identifying vaping. ***Since vaping has a signature in temperature, humidity, and hydrogen ranges, vaping***

[4] Defendants reserve the right to rely on similar disclosures in U.S. Patent Application No. 16/915,074, a pending continuation application of the Asserted '549 Patent, in support of each of its proposed constructions herein.

		may be identified based on the signature."). Col. 6, lines 35-44 ("The index value is calculated based on the temperature, moisture, and the detection results of the modified hydrogen sensor. For example, the temperature falls in a range between 60 and 80 degree Fahrenheit, the moisture is increased by at least 10 percent, and the hydrogen increases from the base level (e.g., environment level) by approximately 10 percent, the detection sensor 110 may determine that vaping has occurred. This determination is provided as an example and is not provided to limit the scope of this application."). Col. 9, lines 15-23 ("The air quality sensor 220 may detect air quality including moisture and hydrogen content in the air and temperature of the air. In other words, the air quality sensor 220 may include a combination of sensors sensing air quality. In an aspect, the air quality sensor 220 may include other sensors sensing air content of the environment. ***Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure***." PCT/US2018/000223 at ¶ [0064] ("Vaping may be detected by specific range

		combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure."); ¶ [0082] ("In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660."). Extrinsic evidence: U.S. Patent No. 10,777,063 to Soter, col. 8, lines 48-50 ("Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure."); col. 10, lines 13-16 ("In step 450, it is determined whether the sensed temperature, humidity, and gas match the signature, meaning that the sensed results are within the corresponding ranges for identifying vaping.") Lunatech ¶¶ [0090; 0148; 0054] Steinthal ¶¶ [0011; 0029] Hartenstein Col 3. Lines 42-58 ("The combination of sensors and the database of signatures enables the present invention to

		monitor a number of contaminants beyond the contaminants that the sensors can monitor individually.) Hartenstein Col 9. Lines 36-49 ("For example, if the sensors consisted of a carbon dioxide sensor, a volatile organic sensor and a sulfur dioxide sensor, then the response of these three sensors to various contaminants can be mapped to a three dimensional space. This is analogous to an array signature for the contaminant. Using a three dimensional space, contaminants that have an array signature spatially near the array signature of other known contaminants can be presumed hazardous and the identity of the contaminant can be inferred. A system having n sensors places the array signatures of various contaminants in an n dimensional space. The additional dimensions allows for more accurate identification of indoor air contaminants. By learning the array signature of additional contaminants, IAQMS 80 can learn to identify a wide variety of contaminants.") Declaration of D. Richard Brown <u>Invalidity Contentions</u>: Invalidity Contentions at Ex. A at claim 25 (pages 33-37)

"the abnormality matching signature includes …" (claims 2, 14) or "the signature includes …" (claim 26)	Proposed Construction: the parameters indicating the presence of vaping includes a temperature range, a hydrogen range, and a humidity range. Infringement Contentions: 10-11, 30-31, 42-44 Supporting Evidence: '549 Patent: col. 1:58-2:67, col. 4:45-54, col. 5:66-6:2, col. 6:8-12, col. 6:25-28, col. 7:1-3, col. 8:21-25, col. 11:43-49, Independent Claims 1, 13, 25; '549 Patent Pros. Hist.: Original Claims 1, 25 and 26, Office Action 1-16-20; U.S. Patent Application No. 62/545,795 at 1-4, 9, 10; November 15, 2018 International Search Report for International Application No. PCT/US18/00223; U.S. Patent Application No. 2015/0020614; U.S. Patent Application No. 2016/0063841; U.S. Patent Application No. 2016/0212828; SOTER 01465-01471; SOTER 01309-01352; SOTER 01359-01376; Declaration of Jacob Sharony; Declaration of William Schweigert; Declaration of Asheik Hussain; Declaration of Mohammed Elbadry.	Proposed Construction: "detectable values of the properties or contents of air that include temperature, hydrogen, and humidity values that taken together indicate the presence of vaping" Proposed Construction: "detectable values of the properties or contents of air that include temperature, hydrogen, and humidity values that taken together indicate the presence of vaping" Intrinsic Evidence: Col. 2, lines 8-10 and lines 48-51 ("vaping or (*sic*) another smoking activity is identified when the detected air quality includes a signature. ***The signature includes a temperature range, a hydrogen range, and a humidity range***.") Fig. 6 & Col. 11, lines 29-49 ("The method starts from sensing temperature and humidity in step 610"; "In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660."

		Col. 5, lines 3-13 ("The location-independent base data may be air quality data related to identifying vaping. ***Since vaping has a signature in temperature, humidity, and hydrogen ranges, vaping may be identified based on the signature.***"). Col. 6, lines 35-44 ("The index value is calculated based on the temperature, moisture, and the detection results of the modified hydrogen sensor. For example, the temperature falls in a range between 60 and 80 degree Fahrenheit, the moisture is increased by at least 10 percent, and the hydrogen increases from the base level (e.g., environment level) by approximately 10 percent, the detection sensor 110 may determine that vaping has occurred. This determination is provided as an example and is not provided to limit the scope of this application."). Col. 9, lines 15-23 ("The air quality sensor 220 may detect air quality including moisture and hydrogen content in the air and temperature of the air. In other words, the air quality sensor 220 may include a combination of sensors sensing air quality. In an aspect, the air quality sensor 220 may include other sensors sensing air content of the environment. ***Vaping may be detected by specific range combination of humidity,***

		hydrogen, and temperature, which is defined as signature in this disclosure.” PCT/US2018/000223 at ¶ [0064] (“Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure.”); ¶ [0082] (“In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660.”). <u>Extrinsic evidence</u>: U.S. Patent No. 10,777,063 to Soter, col. 8, lines 48-50 (“Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure.”); col. 10, lines 13-16 (“In step 450, it is determined whether the sensed temperature, humidity, and gas match the signature, meaning that the sensed results are within the corresponding ranges for identifying vaping.”) Lunatech ¶¶ [0090; 0148; 0054]

		Steinthal ¶¶ [0011; 0029] Hartenstein Col 3. Lines 42-58 ("The combination of sensors and the database of signatures enables the present invention to monitor a number of contaminants beyond the contaminants that the sensors can monitor individually.) Hartenstein Col 9. Lines 36-49 ("For example, if the sensors consisted of a carbon dioxide sensor, a volatile organic sensor and a sulfur dioxide sensor, then the response of these three sensors to various contaminants can be mapped to a three dimensional space. This is analogous to an array signature for the contaminant. Using a three dimensional space, contaminants that have an array signature spatially near the array signature of other known contaminants can be presumed hazardous and the identity of the contaminant can be inferred. A system having n sensors places the array signatures of various contaminants in an n dimensional space. The additional dimensions allows for more accurate identification of indoor air contaminants. By learning the array signature of additional contaminants, IAQMS 80 can learn to identify a wide variety of contaminants.") Declaration of D. Richard Brown

		Invalidity Contentions: Invalidity Contentions at Ex. A at claims 1, 13, and 25 (pages 12-16; 22-28; 33-37)
"identify vaping" or "vaping is identified" (claims 1, 13, 25)	Proposed Construction: determining that vaping is present at a site based on one or more measured parameters from an air quality sensor indicating the presence of vaping. Infringement Contentions: 8-10, 28-29, 41-42 Supporting Evidence: '549 Patent: Abstract, col. 1:18-22, col:1:58-2:67, col. 3:38-44, col. 3:49-58, col. 5:1-13, col. 5:27-35, col. 6:8-7:3, col. 7:49-8:3, col. 8:21-8:30, col. 9:4-34, col. 10:25-31, col. 10:57-11:28, col. 11:29-49; Declaration of Jacob Sharony; Declaration of William Schweigert; Declaration of Asheik Hussain; Declaration of Mohammed Elbadry.	Proposed Construction: "recognize the detected temperature, hydrogen, and humidity values that taken together indicate the presence of vaping" / "recognizing the detected temperature, hydrogen, and humidity values that taken together indicate the presence of vaping" Intrinsic Evidence: *E.g.*, Fig. 6 & Col. 11, lines 29-49 ("The method starts from sensing temperature and humidity in step 610"; "In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660." Abstract: "Vaping or another smoking activity is identified based on the detected air quality" Col. 1, line 67 – Col. 2 line 1: ("The vaping or another smoking activity is identified based on the detected air quality")

		Col. 2, lines 48 – 52 ("The vaping or the another [*sic*] smoking activity is identified when the detected air quality includes a signature. The signature includes a temperature range, a hydrogen range, and a humidity range.") Col. 5 lines 4-6 ("Since vaping has a signature in temperature, humidity, and hydrogen ranges, vaping may be identified based on the signature") PCT/US2018/000223 at ¶ [0064] ("Vaping may be detected by specific range combination of humidity, hydrogen, and temperature, which is defined as signature in this disclosure.."); ¶ [0082] ("In step 650, it is determined whether the sensed temperature, humidity, and gas match abnormality matching signature, meaning that the sensed results are within the corresponding ranges. When they match the abnormality matching signature, an alert is sent in step 660. Otherwise, the method 600 goes back to step 610 and repeats steps 610-660.") <u>Extrinsic evidence</u>: Lunatech ¶¶ [0090; 0202; 0054] Schlosser ¶¶ [0016; 0025] Declaration of D. Richard Brown

		Invalidity Contentions: Invalidity Contentions at Ex. A at claims 1, 13, and 25 (pages 12-16; 22-28; 33-37)
"sound detector" (claim 6)	Proposed Construction: a sensor that detects sound levels in the environment. Infringement Contentions: 16-17, 19-20 Supporting Evidence: '549 Patent: Abstract, col:1:58-2:67, col. 4:39-42, 4:55-67, col. 5:36-53, col. 8:59-64; U.S. Patent Application No. 62/545,795; Declaration of Jacob Sharony.	Proposed Construction: plain and ordinary meaning, no construction necessary Alternative Construction: "an electronic sensor capable of detecting sounds" Intrinsic Evidence: Col. 8, line 51 to Col. 9, line 3 ("the sound sensor 210 detects sound levels (e.g., decibel (dB)) in the environment. For example, FIG. 3A shows detected sound levels ***in the form of voltage amplitudes***. The horizontal axis represents time and the vertical axis represents voltage amplitude. Curves represent detected sound levels in voltage. The bold lines represent windows for identification. For example, the window of identification may be less than 1 second. Within the window, when the voltage amplitude is greater than a threshold value, bullying may be identified. In this example, the threshold value is about 4.9 volts. Thus, between 4 and 5 seconds, bullying may be identified.") Extrinsic evidence: Elhwa [0028]: ("For example, in one embodiment, microphone 210 is mounted

		in the corner of a room and includes an omnidirectional microphone to detect sound in the entire room.") Declaration of D. Richard Brown Invalidity Contentions: Invalidity Contentions at Ex. A at claim 6 (pages 19-21)

"detected sounds" (claim 6)	Proposed Construction: sound levels measured by a sound detector. Infringement Contentions: 17-18 Supporting Evidence: '549 Patent: Abstract, col:1:58-2:67, col. 4:39-42, 4:55-67, col. 5:36-53, col. 8:59-64; U.S. Patent Application No. 62/545,795; Declaration of Jacob Sharony.	Proposed Construction: plaint and ordinary meaning, no construction necessary Alternative Construction: "sounds detected by the sound detector" Intrinsic Evidence: Col. 8, line 51 to Col. 9, line 3 ("***the sound sensor 210 detects sound levels*** (e.g., decibel (dB)) in the environment. For example, FIG. 3A shows detected sound levels in the form of voltage amplitudes. The horizontal axis represents time and the vertical axis represents voltage amplitude. Curves represent detected sound levels in voltage. The bold lines represent windows for identification. For example, the window of identification may be less than 1 second. Within the window, when the voltage amplitude is greater than a threshold value, bullying may be identified. In this example, the threshold

		value is about 4.9 volts. Thus, between 4 and 5 seconds, bullying may be identified.") Extrinsic evidence: Elwha [0029]: ("In operation, microphone 210 is configured to detect sound within range of audio surveillance node 111 and convert the detected sound into an electrical signal that is delivered to control unit 201.") Declaration of D. Richard Brown Invalidity Contentions: Invalidity Contentions at Ex. A at claim 6 (pages 19-21)

CERTIFICATE OF SERVICE

I hereby certify that on February 12, 2021, I caused true and correct copies of **JOINT DISPUTED CLAIM TERMS CHART** to be served via ECF upon all counsel of record.

/s/ Wendy R. Stein